

Congress of the United States
House of Representatives
Washington, DC 20515-5401

September 17, 2010

The Honorable Gary Locke
Secretary
U.S. Department of Commerce
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Mr. Secretary:

I write to express my strong support for the creation of a Caribbean Tsunami Warning Center (CTWC) in Puerto Rico, which will result in improved tsunami detection, warning and education activities in the Caribbean region. In recent months, both the Governor of Puerto Rico, Luis G. Fortuño, and the Governor of the U.S. Virgin Islands, John P. deJongh, have written to President Obama to urge the federal government to establish a CTWC. I respectfully request that the Department of Commerce allocate funds—which would supplement local funds that Governor Fortuño has pledged to provide—to construct and operate a CTWC at the University of Puerto Rico-Mayagüez, located on the Island's western coast.

By virtue of their location on an active plate boundary, coastal areas in Puerto Rico and the U.S. Virgin Islands are vulnerable to tsunamis.¹ A November 1867 tsunami, generated by a local earthquake, killed 17 people in the U.S.V.I. An October 1918 tsunami, also triggered by a local earthquake, killed at least 40 people and caused substantial damage in western Puerto Rico. In addition to the tsunami hazard posed by local earthquakes, Puerto Rico and the U.S.V.I. may be at risk from tsunamis generated by seismic activity in the broader Caribbean region, like the earthquake that recently devastated Haiti or the one that occurred along the northeastern shore of the Dominican Republic in 1946, and may even be at risk from tsunamis generated by more distant earthquakes. As the Government Accountability Office observed in April 2010, the National Oceanic and Atmospheric Administration (NOAA) has concluded that Puerto Rico and the U.S. Virgin Islands, along with four Pacific coast states, “face the greatest tsunami hazard in the United States.”²

¹ “Puerto Rico and the Virgin Islands are located at an active plate boundary between the North American plate and the northeast corner of the Caribbean plate where the plate movements have caused large magnitude earthquakes and devastating tsunamis.” U.S. Geological Survey, Woods Hole Science Center, “Caribbean Tsunami and Earthquake Hazards Studies Program,” Feb. 8, 2006.

² Letter from GAO to Congress, Transmitting Report on “U.S. Tsunami Preparedness,” GAO-10-490, April 28, 2010, pg. 1.

Notwithstanding the threat that tsunamis pose to persons and property in Puerto Rico and the U.S. Virgin Islands, the only two tsunami warning centers in the United States are both located in the Pacific region. The Pacific Tsunami Warning Center (PTWC) is located in Ewa Beach, Hawaii, and is responsible for warning Hawaii, Guam, the Commonwealth of the Northern Mariana Islands, American Samoa, and over 90 foreign countries. The West Coast and Alaska Tsunami Warning Center (ATWC) is located in Palmer, Alaska and is responsible for warning Alaska, coastal states of the U.S. mainland and Canada, as well as Puerto Rico and the U.S. Virgin Islands.

There are strong arguments that counsel in favor of creating a third tsunami warning center in the Caribbean region, rather than continuing to rely on the ATWC for protection of this region.³ The Alaska-based ATWC is located nearly 5,000 miles from Puerto Rico and the U.S. Virgin Islands. Some may insist that physical distance is irrelevant, noting that the ATWC obtains data from Deep Ocean Assessment and Reporting of Tsunamis (DART) buoys, tidal gauges and other detection mechanisms located in the Caribbean region—and that, thanks to satellite and fiber optic communications systems, the information gleaned from these buoys can be almost instantaneously transmitted to the ATWC.

I respectfully submit that this rejoinder does not withstand closer scrutiny. If physical distance between the warning center and the monitored region (in this case, the Caribbean) were truly immaterial, why were the current tsunami warning centers built in two of our country's most tsunami-prone regions? Unless these sites were chosen at random or for narrow political reasons, placement of the PTWC and the ATWC would seem to reflect the view that the physical location of a tsunami warning center does, in fact, matter.

Moreover, tsunami detection is only one aspect of a warning center's role. The core purpose of a tsunami warning center is precisely that—to *warn* local jurisdictions about the possibility of an impending tsunami. Even assuming that information from buoys in the Caribbean can be almost instantaneously transmitted to the ATWC, it is highly unlikely that Alaska-based personnel, having analyzed that data, can warn responsible officials in Puerto Rico and the U.S. Virgin Islands as quickly and efficiently as they could if they were physically located in the region. Depending on the time of year, Alaska Standard Time is four or five hours behind Eastern Time, potentially complicating communications. Phone service is more reliable within Puerto Rico, and between Puerto Rico and the U.S. Virgin Islands, than it is between Alaska and either Caribbean territory. And, given the distance that separates them, experts from the ATWC cannot meet face-to-face with responsible officials from the territories once it has been determined that a tsunami could impact the islands. Such in-person meetings can be extraordinarily valuable and, in the event that an earthquake has disabled telephone service on the affected island, may be absolutely vital. These factors, especially when considered in combination, militate in favor of the CTWC.

Finally, warning center personnel, in addition to providing tsunami detection and warning services, can—and should—serve an important educational and technical repair function. With

³ In addition to Puerto Rico and the U.S. Virgin Islands, the CTWC could potentially provide warning to U.S. states on the east coast and certain foreign nations, thereby more equally distributing coverage responsibility among the three centers.

respect to education, it is imperative that local leaders and citizens in coastal communities be knowledgeable about the threat posed by tsunamis and prepared to implement evacuation plans in a timely manner. When a tsunami is approaching, even a moment's delay or confusion can prove fatal. CTWC personnel could perform on-the-ground outreach in vulnerable communities in Puerto Rico and the U.S. Virgin Islands; ATWC personnel cannot.

With respect to technical repair, the April 2010 GAO report concluded that the DART system typically experiences one or two buoy outages per month, resulting in data being missed for a period of time. The risk of outages is particularly pronounced in bad weather when ocean conditions are harsh—a common occurrence in the hurricane-prone Caribbean. Technically-proficient CTWC personnel could repair damaged buoys, reducing the time period in which potentially-critical data is not being collected and analyzed.

For all these reasons, I strongly support the establishment of a CTWC in Puerto Rico, and urge the Department of Commerce to commit resources to bring this project to fruition. I would also like to request a formal briefing from appropriate Department officials to discuss the issue further.

Thank you for your consideration.

Sincerely,



Pedro R. Pierluisi
Member of Congress

cc: Dr. Jane Lubchenco, Administrator, National Oceanic and Atmospheric Administration
Dr. John Hayes, Director, National Weather Service
The Hon. Luis G. Fortuño, Governor of Puerto Rico
The Hon. John P. deJongh, Governor of the U.S. Virgin Islands
The Hon. Alan B. Mollohan, Chairman, House Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies
The Hon. Frank R. Wolf, Ranking Member, House Appropriations Subcommittee on Commerce, Justice, Science and Related Agencies
The Hon. Bart Gordon, Chairman, House Committee on Science and Technology
The Hon. Ralph M. Hall, Ranking Member, House Committee on Science and Technology